

Nueces Estuary Advisory Council (NEAC) Meeting

Monday, February 23, 2015 at 1:30 p.m.

Corpus Christi Water Utilities

2726 Holly Road, Corpus Christi, TX 78412

Minutes

Members Present: Chris Loft, Chair; Rae Mooney (alt. for Ray Allen); Jace Tunnell (alt. for Ed Buskey); Ruben Solis; Paul Carangelo; Rocky Freund; Con Mims; Brent Clayton; Carola Serrato; Teresa Carrillo; Paul Orser; Wes Tunnell; John Adams; Brian Williams (alt. for Don Roach)

Call to Order

Chairman Chris Loft called the meeting to order.

Approval of October 20, 2014 Meeting Minutes

Members unanimously approved the October 20, 2014 meeting minutes.

NEAC Membership

Chair Loft informed members that both Don Roach and Tom Ballou, whom represented the San Patricio Municipal Water District (SPMWD) and industry representative, respectively, had resigned from the NEAC. Mr. Loft stated that the Port Industries of Corpus Christi recommended Steve Hoey as his Tom's replacement and that Brian Williams (SPMWD) would temporarily serve as Don's replacement. In addition, members were informed that Jace Tunnell would now serve as the alternate for member Ed Buskey, and that Rae Mooney will serve as the alternate for Ray Allen. No members present expressed opposition to the NEAC appointments or changes in designated alternates.

Updates from Contractors for Funded Workplan Projects

Chairman, Chris Loft, informed members that each contractor would provide a short update over their funded workplan project.

- a) Nueces Delta Hydrodynamic Model -Ben Hodges, Center for Research in Water Resources, University of Texas at Austin

Dr. Hodges provided an update to members concerning the development of a hydrodynamic model for Nueces Delta and Bay. He informed members the goals of the project are to model space-time changes in salinity distribution from Calallen Dam to the Nueces Bay Causeway as well as understanding the effects of pumping for different flow rates under various tidal and wind conditions. He indicated that calibration of the dataset is ongoing and then presented preliminary baseline models demonstrating the effects of winds and tides on salinity in the delta and bay. The results showed that freshwater is highly restricted to Rincon Bayou and that fluxes of salinity in the delta and bay proper are tightly controlled by tides and wind. Lastly, Dr. Hodges indicated additional funding in the future would be needed to extend the scope of the project and

enhance model refinement for Nueces Bay. Members inquired as to when the project would be completed and Dr. Hodges indicated that a final report is due to TWDB in summer 2015.

b) Nueces Delta Landform Modification - James Dodson, Naismith Engineering

Mr. Dodson provided an update to members concerning the progress of a study exploring landform modifications to Nueces Bay and Delta aimed at maximizing the benefits of available freshwater inflows. He provided members with an overview of previous studies investigating landform modifications in the region and indicated the study team will be narrowing down scenarios and/or identifying additional concepts for further evaluation. Twelve landform modification scenarios were presented to members with Dr. Hodges demonstrating preliminary modeled results of the first five. Following this, Mr. Dodson indicated that once models are developed for the remaining scenarios, the study team will evaluate permitting requirements of each along with cost estimates. He indicated the final report is due to the TWDB in summer 2015.

c) Nueces Monthly Inflow Evaluation – Cory Shockley, HDR Inc.

Mr. Shockley provided an update on a project aimed at determining if a shift has occurred in the inflow regime to Nueces Bay and the CCR/LCC system as well as the potential impacts such a change might have on safe yield and bay inflows. He indicated that task 1 of the project involving data compilation of streamflow, inflow, and precipitation data for long term (1934-2014), short-term (1986-2014), and recent (2004-2014) time periods is ongoing. He then presented preliminary results of analyses of streamflow and precipitation data showing that in the last ten years, five months out of a year appear to be drier (May, June & October being the most significant) and one month (July) wetter when compared to monthly short and long term averages. No significant deviations for the other six months out of a year were observed. Mr. Shockley compared these preliminary findings to the monthly targets as described in the Agreed Order, and stated that the months (May, June, Sep, Oct) with the highest targets all show drier trends. In addition, Mr. Shockley informed members that task 2 of the study, which focused on yield comparison, had been completed with the results indicating that a lower demand equals higher lake levels and more opportunities for larger pass-throughs as well as that drought times are dominated by lack of inflows. A draft report is scheduled to be out in summer 2015. In addition, it was clarified that the scope of the project only evaluates hydrologic shifts in inflows and that the original monthly targets in the Agreed Order were based not only on hydrology but also on biological needs of the estuary and bay.

d) Nueces Nutrient Changes Over Time – Paula Lemonds, HDR Inc.

Ms. Lemonds updated members on the funded project to develop pre- and post-nutrient budgets for the Nueces watershed. The aim of the project consists of portioning out natural nutrient loads versus anthropogenic loadings and developing annual loads for pre-development and present conditions. She

indicated that the project is currently in the data analysis phase and presented preliminary results using both USGS LOADEST and linear regression analyses. She stated that for some constituents at various locations the USGS model did not depict an expected relationship and that this might be due to the number of sampling events or the default equation selected by the model. Ms. Lemonds indicated that the next steps in the project are to refine the regression models, estimate reservoir influences, and correlate water quality to anthropogenic changes such as land cover. Members inquired as to whether further analyses will utilize both linear regression and LOADEST for all constituent pairs? Ms. Lemonds indicated that the study will focus only on select regressions that show promise. In addition, member Rae Mooney suggested making LOADEST to use the simplest equation so as not to force a false seasonality which would improve the overall fit of the model.

Review of Workplan Projects – Texas Water Development Board (TWDB)

Ruben Solis, TWDB, informed members that the TWDB is seeking volunteers from the Nueces BBASC and BBEST groups to review the work plan funded project reports due in August 2015. He stated that the focus of the review would be limited to within the context of the original Scope of Work, a guidance document outlining the reviewing process will be provided, comments are expected to be submitted in electronic format, and reviewers will have approximately a 2 week window to complete their review of the studies. Following discussion, members were in agreement to request volunteers from the NEAC and BBEST. Additionally, Dr. Solis informed members that the TWDB had requested \$2.0 million in legislative funding for the continued study of environmental flows and that no specific amounts were currently earmarked for any specific basin.

Corpus Christi Drought Update and Water Supply Index Presentation

Bent Clayton, City of Corpus Christi, provided members with an overview of the current state of the drought in Corpus Christi and the water supply index currently in development. He described the process the City had used to come up with the new index which takes into account additional water supplies including the Mary Rhodes pipeline and Lake Texana. NEAC members inquired as to whether calculation of the demand takes into account evaporative losses and if the drought triggers will be depicted on the index? Mr. Clayton indicated that the equation developed does not account for evaporative losses and that the drought triggers would be added to the index once it is approved by the City council. The water supply index will be presented at the next City Council meeting.

Other Items

Members were informed that James Dodson would be hosting another meeting as part of his funded study on March 9th at the Ortiz Center.

Next Meeting

The next meeting of the NEAC is tentatively scheduled for Monday, June 22nd, 2015 at 1:30 p.m. at the City of Corpus Christi Water Utilities Building.

Meeting Adjourned

